The Noguchi Memorial Institute for Medical Research, Accra Ghana – Dr. Kwadwo KORAM

The NMIMR is a well established research institute. The MIM/TDR project (ID 980034) had as main objective, the evaluation of the level and extent of response for *P. falciparum* to chloroquine and other anti-malarial drugs in Ghana. Six district hospitals were involved in the surveillance of anti-malaria drug resistance using a 14day follow-up protocol and molecular markers to track drug resistance. The NMIMR has infrastructure to conduct *in vitro* drug susceptibility testing. However, there is a need to build capacity in human resources to carry out studies in Pharmacokinetic analysis. Equipment related to the network includes a spectrophotometer and a plate reader.

Study Sites:

Six (6) District hospitals or health centres were selected on the basis of geographic spread (rural or urban), ecological features and hospital attendance to give a representative picture of the country for the previous MIM supported study on antimalarial drug efficacy in Ghana, (Project ID 980034). These facilities met the minimum criteria of a minimum daily attendance at the Out Patients' Department (OPD) large enough to furnish adequate numbers of patients for testing, the presence of a good laboratory and a reliable supply of electricity. The selected district hospitals are one polyclinic in Accra, Hohoe (urban), Navrongo (rural), Sunyani (urban), Tarkwa (rural) and Yendi (rural). The two centres in Hohoe, (mid forest zone with perennial transmission) and Navrongo (Guinea Savanah zone with markedly seasonal transmission) will be used to generate data for the network activities. Preliminary data from these two sites indicate that chloroquine is somewhat efficacious in the treatment of uncomplicated malaria, 14% treatment failure rate in Hohoe and 19% treatment failure rate in Navrongo. Analysis of molecular markers for resistance indicated a relatively high prevalence of the putative markers for chloroquine resistance at both sites (pfcrt76, 64% and 72% on Day 0 samples at Navrongo and Hohoe respectively). Further analysis of samples from those who failed treatment and for the prevalence of markers for SP resistance is being undertaken. It is proposed to use chloroquine as the test drug at the two sites with SP or Amodiaquine as the rescue drug. Those who fail treatment will be randomised to receive SP or Amodiaquine and followed as per the protocol.

In order not to leave the other centres idle, it is proposed to continue to carry out minimal activities such as therapeutic assessment monitoring of Amodiaquine and SP used as primary treatment drugs at these centres. Filter paper samples will be collected and stored for analysis in the future to determine the prevalence of the putative molecular markers of drug resistance at these sites. Separate funding will be sought for the activities at the additional sites.

Team Composition

Principal Investigator	**K. Koram**
Co-Principal Investigator	A Oduro
Molecular Markers	N. Duah N. Quashie 1 technicians (To be employed – TBE)
Pharmacokinetics	E. Addo W. Anku (TBE) D. Ofori-Adjei
In vitro Assay	N. Quashie D. Ahulu
Clinical Assessment	K. Koram A. Oduro
Data manger	K. Koram
Safety Officer	B. Abuaku